

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification									DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5						R-1 ITEM NOMENCLATURE 0604262N / V-22					
COST (\$ in Millions)	Prior Years Cost		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Total PE Cost	6,580.105		217.925	442.787	420.109	364.303	225.321	62.435	46.207	15.289	8,374.481
H1425 V-22	6,580.105		217.925	442.787	420.109	364.303	225.321	62.435	46.207	15.289	8,374.481
Quantity of RDT&E Articles	4										4
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The V-22 Osprey is an ACAT-ID Joint Program led by the Department of the Navy for the purpose of developing, testing, evaluating, procuring and fielding a tilt rotor, vertical takeoff and landing aircraft for Joint Service application. The V-22 program is designed to provide an aircraft to meet the amphibious/vertical assault needs of the Marine Corps, the strike rescue needs of the Navy, and the special operations needs of the Air Force and the United States Special Operations Command (USSOCOM). The V-22 will replace the CH-46E and CH53A/D in the Marine Corps with the MV-22; supplement the H-60 in the Navy with the HV-22; and replace the MH-53J and MH-53M as well as augment the C-130 in the Air Force and USSOCOM with the CV-22. The V-22 will be capable of flying over 2100 nautical miles with a single refueling, giving the services the advantage of a Vertical/Short Take-off, and Landing (VSTOL) aircraft that can rapidly self-deploy to any location in the world.</p> <p>As a result of the December 11, 2000 mishap, the program office conducted comprehensive external and internal reviews of the program. An independent Blue Ribbon review panel was appointed to conduct this review. This budget reflects the recommended funding changes to correct deficiencies and move forward.</p> <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY:</p> <p>This program is funded under ENGINEERING & MANUFACTURING DEVELOPMENT (EMD) because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.</p>											

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EXHIBIT R-2a, RDT&E Project Justification								DATE:			
								February 2002			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME					
RDT&E, N / BA-5	0604262N / V-22					H1425 / V-22					
COST (\$ in Millions)	Prior Years Cost		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Project Cost	6,580.105		217.925	442.787	420.109	364.303	225.321	62.435	46.207	15.289	8,374.481
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(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

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As a result of the December 11, 2000 mishap, the program office conducted comprehensive external and internal reviews of the program. An independent Blue Ribbon review panel was appointed to conduct this review. This budget reflects the recommended funding changes to correct deficiencies and move forward.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 2001 ACCOMPLISHMENTS:

- (U) (\$141.889) Continued MV/CV-22 development efforts by Bell-Boeing. Provided engine support and repair of repairables for MV/CV-22 flight testing. Continued MV/CV-22 software development efforts. Continued TF/TA radar development for the CV-22. Continued development of maintenance training equipment. Completed MV-22 Operational Flight Trainer / Full Fidelity Simulator (OFT/FFS) development. Continued contracted R&D efforts on aircraft #8 & #10.

- (U) (\$76.036) Continued in-house field activity support of ITT's and IPT's, logistics and training activities, the manned flight simulator and numerous other efforts at over 12 activities. Continued field R&D efforts on aircraft #8 & #10. Provided R&D support in the areas of R&M data analysis, loads and dynamics, electromagnetic environmental effects, MV/CV-22 flight controls, survivability, subsystems, shipboard compatibility, propulsion, MV/CV-22 avionics, facilities, computer support, structures, communications, Small Business Innovative Research, etc. Provided flight test support for CV-22 aircraft #7 and #9. Provided engineering and maintenance support for MV/CV-22 flight testing. Funded fuel costs for test aircraft and/or engines. Developed and tested flight control software required to fix anomalies that caused the Dec 00 mishap. Performed engineering investigations into line clearance issues. Performed multiple-lab testing of software warnings, cautions, and advisories (WCA) in various degraded modes (single and multiple system failures).

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604262N / V-22	PROJECT NUMBER AND NAME H1425 / V-22
<p>3. FY 2002 PLANS:</p> <ul style="list-style-type: none"> - (U) (\$198.602) Contractor activities: Continue MV-22 development efforts by Bell-Boeing. Rolls-Royce continues to provide engine support and repair of repairables for MV-22 flight testing. Complete MV-22 software development efforts. Continue development in support of "Return to Flight" and MV-22 Block up-grades required to return the MV-22 to fleet operations in FY 03. Continue development of maintenance training equipment. Restart WRA/TPS development. Continue logistics, flight test, and flight test support, address correction of deficiencies, and provide funding for the MV cost overruns. Continue contracted development efforts on aircraft #8 and #10. - (U) (\$104.964) Field activities: Continue in-house field activity support of ITT's and IPT's, logistics and training activities, the manned flight simulator and numerous other efforts at over 12 activities. Continue development in support of "Return to Flight" and MV-22 Block up-grades required to return the MV-22 to fleet operations in FY 03. Continue field development efforts on aircraft #8. Provide R&D support in the areas of R&M data analysis, loads and dynamics, electromagnetic environmental effects, V-22 flight controls, survivability, subsystems, shipboard compatibility, propulsion, V-22 avionics, facilities, computer support, structures, communications, Small Business Innovative Research, etc. Continue logistics, flight test, and flight test support, and address correction of deficiencies. - (U) (\$122.819) Continue CV-22 Block-0 EMD development. Provide flight test support for CV-22 aircraft #7 and #9. Provide engineering and maintenance support for CV-22 flight testing. Fund fuel costs for test aircraft and/or engines, and provide funding for CV cost overruns. - (U) (\$16.402) Portion of extramural program reserved for Small Business Innovation Research assessment in accordance wiith 15 USC 638. <p>4. FY 2003 PLANS:</p> <ul style="list-style-type: none"> - (U) (\$224.200) Contractor activities: Continue MV-22 development efforts by Bell-Boeing. Provide engine support and repair of repairables for MV-22 flight testing. Continue development in support of "Return to Flight" and MV-22 Block up-grades required to return the MV-22 to fleet operations in FY 03. Continue development of maintenance training equipment. Continue contracted development efforts on aircraft #8 and #10, plus three LRIP aircraft. Continue WRA/TPS development. Continue development of the Ground Collision Avoidance System (GCAS). Continue logistics, flight test, and flight test support, and address correction of deficiencies. - (U) (\$78.375) Field activities: Continue in-house field activity support of ITT's and IPT's, logistics and training activities, the manned flight simulator and numerous other efforts at over 12 activities. Continue development in support of "Return to Flight" and MV-22 Block up-grades required to return the MV-22 to fleet operations in FY 03. Continue field development efforts on aircraft #8 and #10, plus three LRIP aircraft. Provide R&D support in the areas of R&M data analysis, loads and dynamics, electromagnetic environmental effects, CV-22 flight controls, survivability, subsystems, shipboard compatibility, propulsion, CV-22 avionics, facilities, computer support, structures, communications, Small Business Innovative Research, etc. Continue logistics, flight test, and flight test support, and address correction of deficiencies. - (U) (\$117.534) Continue CV-22 Block-0 EMD development. Provide flight test support for CV-22 aircraft #7 and #9. Provide engineering and maintenance support for CV-22 flight testing. Fund fuel costs for test aircraft and/or engines. - (U) Anticipate approximately \$ 16M carryover from FY02 to continue MV-22 development. 		

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2002	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME		
RDT&E, N / BA-5		0604262N / V-22			H1425 / V-22		

(U) B. PROGRAM CHANGE SUMMARY:

	FY2001	FY2002	FY2003
(U) FY 2002 President's Budget:	146.589	546.713	
(U) Adjustments from the President's Budget:	71.336	-103.926	
(U) FY 2003 President's Budget Submit:	217.925	442.787	420.109

CHANGE SUMMARY EXPLANATION:

(U) Funding: The FY2001 increase of \$71.336 million reflects an increase of \$80.000 million for the restructuring of the program to meet the Way Forward recommendations of the Blue Ribbon Panel offset by a decrease of \$5.215 million for Small Business Innovative Research Assessment, a decrease of \$.018 million for a Federal Technology Transfer, and a decrease of \$3.431 million for reprioritization of requirements within the Navy. The FY 2002 decrease of \$103.926 million consists of an increase of \$.022 million for economic adjustments, a decrease of \$100.000 million to defer building two SOCOM EMD aircraft per the FY02 Appropriations Bill, and a decrease of \$3.948 million for an undistributed Congressional reduction.

(U) Schedule: As a result of the December 11, 2000 mishap, the program office conducted comprehensive external and internal reviews of the program. An independent Blue Ribbon review panel was appointed to conduct this review. This budget reflects the recommended funding changes to correct deficiencies and move forward.

(U) Technical:

(U) C. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete
16400 / V-22								
V-22 APN-1	962.962	808.973	1,105.958	1,108.482	1,214.205	1,593.181	2,142.064	
V-22 APN-6 Spares	48.277	75.258	214.042	115.436	32.398	31.149	33.622	
59000 / V-22								
V-22 APN-5	35.000	17.273	4.961	4.944	36.465	19.672	24.533	235.500
Related RDT&E:								
0401318F CV-22	0.000	188.649	11.449	15.926	8.401	4.996	4.990	Cont
1160404BB CV-22	40.224	101.661	62.807	50.843	35.562	0.000	0.000	Cont

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604262N / V-22	PROJECT NUMBER AND NAME H1425 / V-22																										
<p>(U) D. ACQUISITION STRATEGY: The V-22 program is designed to provide an aircraft to meet the medium lift amphibious/vertical assault needs of the USMC and the special operations needs of the USSOCOM. The aircraft will be capable of operations from aviation and air capable ships, as well as from unimproved landing sites throughout the world. The tiltrotor aircraft combines the speed, range and fuel efficiency normally associated with turboprop aircraft with the vertical take-off/landing and hover capabilities of helicopters. The special operations aircraft (CV-22) will consist of the baseline V-22 aircraft (MV-22) configuration plus a terrain following radar, additional fuel tanks, radios and flare/chaff dispensers, radar jammer and warning receiver, and infrared countermeasures. The CV-22 will be approximately 80% common with the MV-22.</p> <p>(U) E. SCHEDULE PROFILE:</p> <table border="1"> <thead> <tr> <th></th> <th><u>FY 2001</u></th> <th><u>FY 2002</u></th> <th><u>FY 2003</u></th> <th><u>TO COMPLETE</u></th> </tr> </thead> <tbody> <tr> <td>(U) Program Milestones</td> <td>1Q Suspension of flight operations</td> <td>TBD Program Reviews</td> <td>TBD</td> <td>TBD MSIII TBD IOC</td> </tr> <tr> <td>(U) Engineering Milestones</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) T&E Milestones</td> <td></td> <td>3Q RESUME FLIGHT TEST</td> <td></td> <td></td> </tr> <tr> <td>(U) Contract Milestones</td> <td>3Q LRIP LOT V AWARD 3Q LRIP LOT VI (LONG LEAD)</td> <td>2Q Definitize Lot V/VI</td> <td></td> <td></td> </tr> </tbody> </table>					<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>TO COMPLETE</u>	(U) Program Milestones	1Q Suspension of flight operations	TBD Program Reviews	TBD	TBD MSIII TBD IOC	(U) Engineering Milestones					(U) T&E Milestones		3Q RESUME FLIGHT TEST			(U) Contract Milestones	3Q LRIP LOT V AWARD 3Q LRIP LOT VI (LONG LEAD)	2Q Definitize Lot V/VI		
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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2002					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				PROGRAM ELEMENT 0604262N / V-22			PROJECT NUMBER AND NAME H1425 / V-22						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Prime Contractor - Airframe	SS CPAF	BELL-BOEING, PaxRiver, M	3,370.948	132.620	10/00	311.617	03/02	335.530	10/02	483.875	4,634.590	4,634.590	
Award Fee	SS/CPAF	BELL-BOEING, PaxRiver, M	165.347	6.884	10/00	6.826	03/02	4.281	10/02	5.014	188.352	188.352	
Prime Contractor - Engine	C/CPIF	ALLISON, INDIANAPOLIS, IN	178.506	3.385	10/00	2.978	04/02	1.923	10/02	5.380	192.172	192.172	
Field Activity	WX	NAWCAD PAX RIVER, MD		42.348	10/00	75.435	02/02	59.306	11/02	165.932	343.021		
Field Activity	MIPR	EDWARDS AFB, CA		5.481	10/00	7.640	02/02	4.934	11/02	13.805	31.860		
Field Activity	WX	NAWCAD LAKEHURST, NJ		5.773	10/00	9.711	02/02	6.271	11/02	17.546	39.301		
Field Activity	VARIOUS	VARIOUS	2,861.837	21.434	10/00	12.178	02/02	7.864	11/02	22.003	2,925.316		
SBIR Assessment													
Subtotal Product Development			6,576.638	217.925		426.385		420.109		713.555	8,354.612		
Remarks: Award Fees actually awarded range from 67% to 86%. Target value of Bell-Boeing contract does not include anticipated overrun, ACO orders, or new efforts not already on contract (FY01-07), such as the gun and environmental control system. Breakout of "Cost to Complete" between prime contractor and field activities is an estimate and actual split will depend on negotiated value of future contract modifications, such as the gun and environmental control system. Prior year cost breakout is not available by specific field activity. Field activity prior year costs have been subtotaled and placed in the "various" category.													
NOT													
SEPARATELY													
PRICED													
Subtotal Support													
Remarks:													

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Exhibit R-3 Cost Analysis (page 2)								DATE: February 2002				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604262N / V-22			PROJECT NUMBER AND NAME H1425 / V-22						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
NOT SEPARATELY PRICED												
Subtotal T&E												
Remarks:												
ASN or HQMC directed studies	various	various	3.467								3.467	
SBIR Assessment						16.402					16.402	
Subtotal Management			3.467			16.402					19.869	
Remarks:												
Total Cost			6,580.105	217.925		442.787		420.109		713.555	8,374.481	
Remarks:												

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